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Trouble Looms for Atomic Power in Energy Reorganization

The long-sought re-organization of all federal energy research activities, including a new commission for regulating atomic energy, was signed into law Oct. 18. But arriving as they do after nearly four years of struggle and compromise among mighty powers with a great deal at stake, the new creations are ideal setups for generating more strife than energy.

Though reams are necessary to dissect the bureaucratic details of what goes where as a result of the establishment of the Energy Research and Development Administration (ERDA) and the Nuclear Regulatory Commission (NRC), the essential reality in the politics of energy is that trouble-plagued atomic energy is in for even more trouble. As the largest piece among the amalgamation of functions that go into ERDA, nuclear R&D will continue to dominate the energy R&D budget. But in terms of organizational position, it is now only one among many energy alternatives for which ERDA is responsible--which means that when it come to allocating the overall ERDA budget, devotees of non-nuclear systems will eventually be able to stake their claims in terms of comparisons with the costs of developing atomic energy. ERDA comes into being as a single agency, but under the act that finally emerged from years of Congressional wrangling, there will be a presidentially appointed assistant administrator for each of six areas: fossil energy; nuclear energy; environment and safety; conservation; solar, geothermal and advanced energy systems; and national security. They will be expected, of course, to perform in harmony under their two presidentially appointed chiefs, the administrator--Robert C. Seamans, Jr.-- and a deputy administrator, yet to be named. But with the coal, solar, and geothermal lobbies, so to

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Space Says It's Anti-Inflation

With White House budget cutters on an anti-inflation rampage, the newest protective ploy among federal agencies is to argue that not only are their expenditures vital to national well-being, but, in fact, they are also anti-inflationary.

Far out in the lead with this gambit is NASA, which having been pared to a mere $3.2 billion in the last budget go-round, views with anxiety Mr. Ford's quest for thrift. Accordingly, the space agency has engaged the services of an academic economist, Noel Doherty, who has taken a year's leave from St. John's University, New York, to perform a crash-basis study of the benefits to be had from spending on high-technology endeavors.

Doherty, who arrived in July, told SGR that by next month he expects to produce evidence that the growth of productivity in high-technology industries is higher than in most industries and that, therefore, they tend to be anti-inflationary.

His findings are expected to be delivered to NASA officials in time for the Office of Management and Budget's final showdown on the budget that the President will send to Congress early next year.

In Brief

The forced resignation of Energy Administrator John C. Sawhill is regarded as further evidence of the Administration's desire to produce as few political waves as possible in dealing with the energy crisis. Sawhill, like his Nixon-era predecessor, Gov. John Love, committed the sin of urging conservation of energy as the primary focus of government efforts.

National Academy of Sciences President Philip Handler looks like a shoo-in for another six-year term following the recommendation of a nominating committee that he be the sole candidate in the election. Write-ins are possible, and a few Academy members are privately talking about an opposition candidate, but their efforts have so far stirred little interest within the apathetic mass that populates the Academy.

Particularly grating to the anti-Handler members is a doomsday speech that he has lately been giving on world food problems in which he asserts that unavoidable catastrophe is at hand, and, without dissent, quotes Aristotle, "From time to time it is necessary that pestilence, famine and war prune the luxuriant growth of the human race." Friends say Handler speaks with concern for a humane solution to the food problem, but that his thoughts come across in a fashion that lends itself to misunderstanding.

NSF Director H. Guyford Stever is going to Saudi Arabia in December to discuss technical cooperation programs. Aides say that one agreeable aspect of dealing with the Saudis is that there are no problems about getting them to provide funds for whatever thry're interested in.

Federal Scientific Employment Drops Below '68 Level

For only the second time in two decades, the National Science Foundation reports, the number of scientists on the federal government's payroll declined last year, and there are now fewer government scientists and engineers than there were in 1968.

The drop can be explained partly by the Nixon Administration's policy of reducing the numbers of federal employees, and the trend is likely to be maintained as a result of President Ford's oft-repeated commitment to cut the federal payroll.

Every department and agency reported a drop in the employment of scientists and engineers, and the overall reduction amounted to 3%, from 166,700 in October 1972 to 161,500 in October 1973. Physicists, biologists, geographers and cartographers reported the largest declines, at 4%, while the number of mathematicians and statisticians declined by 2%, and social scientists suffered a drop of 1%.

The Department of Defense is the biggest employer of scientists–20,916 compared with 20,624 in the employ of the Department of Agriculture–and DoD continues to account for about 60% of all the engineers on the federal payroll.

The report, *Federal Scientific and Technical Personnel Decline in 1973*, NSF 74-316, is available without charge from NSF, Washington, D.C. 20550.

ERDA (Continued)

speak, gathering steam and building alliances with industry and Congress, nuclear advocates will no longer exist in budgetary isolation.

Perhaps even more important, the newly adopted legislation provides independent status for the Nuclear Regulatory Commission, which means that certification of nuclear safety will no longer be primarily entrusted to a captive office of the Atomic Energy Commission. Under the re-organization, the AEC dissolves into ERDA, where it will proceed with its usual function of promoting the development of nuclear power. But its regulatory powers are sliced off and assigned to the five-member NRC. The Commission, to be headed by AEC Commissioner William A. Anders, may not contain more than three members of one political party, which at least encourages the possibility of some divergence of views sprouting under its auspices. By tradition, federal regulatory commissions tend to function as allies rather than as watchdogs of their charges, and, therefore, it should not be expected that the NRC will blossom forth as a Naderite bastion of nuclear regulation. But as was the case with the seemingly toothless environmental legislation that has come to plague the nuclear power industry, the existence of an organizationally independent regulatory authority holds the potential for lots of ambushes that are not necessarily apparent at this early stage. Since the commissioners require Senate confirmation, and the Senate has become a hotbed of nuclear skeptics, the odds are that something fewer than five of the commissioners will be of the rubber-stamp variety.

While ERDA is to be headquartered at the former AEC headquarters in Germantown, Md., the NRC will set up shop elsewhere---probably Bethesda, Md.,-- and, unlike its predecessor within AEC, it will have authority to sponsor research for "confirmatory assessment."

The House-Senate conference report on ERDA and the NRC states that "it is not intended that the commission build its own laboratories and facilities for research and development or try to duplicate the research and development responsibilities of ERDA." But it also notes that the Commission is to have "an independent capability for developing and analyzing technical information related to reactor safety, safeguards and environmental protection in support of the licensing and regulatory process."

Also, that "The regulatory agency should not be inhibited in any way from access to all data required to assess the safety of a license application or the operation of a licensed facility. Physical access to research and development activities must be made available to the regulatory agency. If the license application is inadequate in any respect considered significant by the regulatory agency, the license is refused."

Opponents of nuclear power lost out when the conferees agreed to deletion of a Senate provision that would have required the Commission to provide technical assistance for parties to Commission proceedings and also reimbursement for legal fees, which, together, would have amounted to a federally subsidized hunting license for the so-called nuclear intervenors. The reimbursement issue, however, was accorded some possibility of revival with the notation in the conference report that several cases on this subject are pending before the AEC and that "there is nothing in the Atomic Energy Act...which would preclude the Commission from reimbursing parties where it deems it necessary."

Finally, the Act requires the NRC to report to Congress any "abnormal occurrences at any utility or facility licensed under the Atomic Energy Act." These reports which are to be made public within 15 days of delivery to Congress, are to cover any "unscheduled incident or event which the Commission determines to be significant from the standpoint of public helath or safety." The reporting requirement also applies to "special nuclear or other

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The ERDA Realignment

Some of the major shifts that will occur as a result of the creation of the Energy Research and Development Administration (ERDA) are as follows:

ERDA gets all of the present Atomic Energy Commission, except for the AEC's regulatory functions, which are assigned to the newly established Nuclear Regulatory Commission.

The AEC's military functions also go to ERDA, but the Administrator of the new agency is to advise the President within one year as to whether these should be transferred to the Department of Defense.

ERDA will take over the National Science Foundation's solar heating and cooling and geothermal power development programs; also, the Interior Department Office of Coal Research programs involving R&D on fossil fuel energy, plus R&D programs of the Bureau of Mines.

The Environmental Protection Agency will retain R&D concerned with assessment or monitoring for regulatory purposes, but ERDA acquires EPA's alternative automotive power systems programs.

At the insistence of the Senate, the Act establishing ERDA specifies that the new agency is to be responsible for the "general basic research activities" previously supported by the AEC, which should provide some reassurance for AEC grantees and contractors who feared they might get lost in the vastness of the new agency's industrial-scale programs.

The Act also specifies that the Joint Committee on Atomic Energy retains authority over nuclear affairs.

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materials or high-level radioactive wastes in transit to or from a licensed facility. . ."

The completion of Congressional action on the legislation came with unexpected swiftness, following long and difficult negotiations to work out the differences between the House and Senate versions. In the former chamber the key figure was Rep. Chet Holifield (D-Calif.), who regards the atomic energy establishment as his own personal monument.

Holifield, than whom there has not been a more assiduous legislative promoter of nuclear power, forsook the charimanship of the Joint Committee on Atomic Energy two years ago to be in a position to intercept the reorganization legislation as chairman of the Government Operations Committee, where he fought long and hard against a torrent of strict regulatory requirements that originated in the Senate.

But with Congress about to go home for elections, and Holifield retiring at the end of this term, he apparently figured that the best deal he could get in this session would probably be the best deal that nuclear power could ever hope for. The result is a reorganization that falls short of the objectives that were sought by what the nuclear lobby terms the "crazies".

But the new lay of the land is not going to be the least bit conducive to speeding the arrival of nuclear power. As the costs and environmental concerns increase, and construction delays mount, Congressional ardor for nuclear power is diminishing, and though the Administration's energy planners assign a major role to nuclear power, it is not immune to shifts of political sentiment. Doubters are advised to consult the survivors of the once-mighty space establishment. --DSG

In Print

Recent publications of more than routine interest:

Issues in Canadian Science Policy, published by the Science Council of Canada; the first issue of this magazine-format periodical, which is to be published two or three times a year, contains articles on environmental impact assessment, Canadian air transport development, and the "Rationalization of University Research." The articles complement the far lengthier *Council Reports* and *Background Studies* which the Council has been issuing at the rate of two or three per year since 1967. With occasional lapses, the Council's output represents one of the brighter spots in the generally dowdy genre of writings on science policy affairs, and the new publication is up to the Council's high standard. *(Issues in Canadian Science Policy,* 30 pages, $1, Information Canada, 171 Slater St., Ottawa, Canada).

The Cigarette Controversy, In case you thought the matter was settled, it is not, in the view of the Tobacco Institute, which asks about cigarette smoking, "Does it cause illness–even death?" Answer: "no one knows." (Copies available without charge from the Tobacco Institute, 1776 K St., N.W., Wash., D.C. 20006).

The Non-Proliferation Treaty, a review of the issues that will be considered next May in Geneva, when some 83 signatories will assemble for a fifth anniversary examination of the nuclear pact. In anticipation of this conference, the Arms Control Association and the Carnegie Endowment for International Peace sponsored a preliminary meeting in September in Divonne, France. One major recommendation: Treaty adherents should abide by the letter and spirit of the agreement and refrain from making nuclear capabilities available to non-adherents, which is what the US is doing by offering nuclear reactors to the Middle East. *(The Non-Proliferation Treaty,* 16 pages, 25 cents, Arms Control Association, 1717 Mass. Ave. N.W., Wash., D.C. 20036).

Ray to Head State Department's Oceans, Science Bureau

The appointment Oct. 29 of Dixy Lee Ray to head the newly created Bureau of Oceans and International Environmental and Scientific Affairs at the State Department disposes of the problem of what the Administration was going to do with Ms. Ray now that the Atomic Energy Commission is to be dismantled. And it also raises the possibility that the Bureau may serve as more than a token nod toward the role of science and technology in foreign affairs (SGR Vol. IV, No. 15).

The Bureau, which was foisted on the Department by an Act of Congress, came close to getting a chief last August when William A. Nierenberg, director of the Scripps Institution of Oceanography, conferred with Secretary of State Kissinger and came away with the impression that the appointment was his.

Following his conversation with Kissinger, Nierenberg assumed that his appointment would be announced in time for him to take up the post by September 15, but when that date passed and he was unable to obtain an explanation from the Department, his enthusiasm declined, and he let it be known that he was no longer interested. A senior official of the Department then contacted him to declare surprise and distress about his decision, but Nierenberg refused to change his mind. He has privately explained, however, that he had come to the conclusion that Kissinger and his ranking associates at the Department regarded the Bureau as a nuisance rather than an opportunity to weave scientific and technical skills into the formulation of foreign policy.

Whatever the Secretary may have had in mind for Ms. Ray, it is doubtful that she will conform to the tradition of keeping quiet and uninfluential that has accompanied the top science-related post at the State Department. Her appointment to the AEC and later to be its chairperson was originally regarded as a Nixonian ploy aimed at reconciling pressures for women's rights with a desire to make weak appointments and thus run the government from the White House. But even those who reacted most cynically to her AEC appointment now concede that she ran the Commission with strength and efficiency, and that she forced the nuclear establishment to recognize that public fears of atomic energy could not be dismissed as irrational and unworthy of attention.

The Bureau that she will head--with the rank of Assistant Secretary--is the result of a consolidation of activities that was forced on the State Department last year by Senator Claiborne Pell (D-R.I.) who, as a member of the Foreign Relations Committee, has long shown an interest in ocean affairs and international control of weather modification.

The State Department, however, expressed its distaste for Congressional direction of its internal organization and Kissinger let a year go by before issuing a directive for bringing together its Bureau of International Scientific and Technological Affairs, Office of Environmental Affairs, and Office of Fisheries and Wildlife--which, together make up the new Bureau.

The absence of any sense of urgency in filling the post was in line with the Department's longstanding indifference to building up on-board expertise in science, technology, and related matters. Though it is commonplace for the managers of foreign affairs to sweeten up difficult international relations with an exchange of scientific activities—as was the case in warming relations with the Soviet Union over a decade ago and recently with the People's Republic of China—there is a tendency at the Department to regard science and technology as an off-the-shelf package rather than a delicate instrument. On more complex matters, such as international control of atomic energy and environmental collaboration, there has been little expertise on hand and even less of an appreciation of the importance of having it.

The appointment of Ms. Ray strongly suggests that a change may be at hand.

In Quotes

"The following is from a memorandum by Derek de Solla Price, chairman of the Department of History of Science and Medicine, Yale University, to the advisory committee on Science, Technology, and Human Values of the National Endowment for the Humanities:

To give a somewhat slick summary account of the university crisis, it appears inescapable that the educational machinery of the United States has recently peaked out and saturated. For more than a century of educational expansion and democratization, one of the chief products of higher education has been educators. The rate of expansion has been order-of-magnitude 6%, and the mortality of the teaching population is 2%. Within a few years the total need for teachers at the university and college levels is being reduced from a total 8% to not much more than 2%, thus decreasing job availability by a factor of four. At present about half of each age group is admitted to higher education and it seems unlikely that there is either will or money for a renewal of the old expansion. One major and immediate result of the drop in jobs is that employment opportunities for junior faculty are drastically reduced and almost all universities in the country have rapidly ageing faculties for this reason. We need virtually an internal "refugee movement" to rescue and utilize at least the brightest of these junior faculty scholars who are now being squeezed out, and we shall need it until the pipeline of reduced input gives us a restored balance with output and needs.

Ford Foundation Study Draws Shrieks from Mobil Oil

A Ford Foundation study that recommends stringent curbs on energy consumption has driven the Mobil Oil Corporation to an advertising compaign that suggests that paranoia is well advanced in the petroleum industry.

Responding with newspaper ads on the same day that the $4-million energy policy study was reported in the press, Mobil proclaimed that the study "would have us substitute bicycles for cars; live in colder homes in winter, hotter homes in summer; and vacation where we live, not where we please. It would even move more than 1,000,000 people a year to new communities where they would work at the jobs planned for them by the government."

To boggle the mind of the readers even further, the ad says that the study "opts for a *veto* by those who may argue for delay - a policy that would block new refineries, offshore drilling, and development of nuclear power facilities - thus increasing US dependence on foreign oil."

The study, however, does no such thing. It recommends that the government should set mandatory fuel economy standards for new cars, encourage better insulation of buildings, support research on energy-saving technologies, and allow energy prices to rise. In that way, energy growth can be cut to about 2% a year by 1985, the study says, and decisions on whether or not to develop offshore oil resources, increase production from nuclear power, strip mine coal in the arid west, or extract oil from shale, can then be deferred for a few years in order to examine the environmental consequences of each option.

The ad falls just short of outright lying, however, since some reference to driving less and living in planned communities can be found on careful scrutiny of a chapter dealing with the consequences of zero energy growth.

But the point is that the study does not recommend outright that policies to achieve zero energy growth should be put into effect. It suggests instead that such a policy could be pursued without precipitating economic disaster and without sacrificing living standards, and that it merits careful study.

Mobil's answer to the energy crisis is nothing if not predictable. The ad suggests that energy should be conserved by eliminating waste (which it conveniently neglects to define), developing domestic resources immediately, eliminating governmental controls which "frustrate development of additional energy supplies," stretching out the timetable for achieving environmental goals, encouraging energy R&D, and coming "to grips honestly with the social costs of restricting energy growth" - which , of course, means accepting that "a higher standard of living requires the development and use of more energy."

Mobil's diatribe clearly took none of the writers of the Ford study by surprise, since they predicted in their report that "merely to discuss 'zero energy growth' is to unleash a torrent of indignant advertising paid for by major industrial interests which benefit from growth in energy consumption."

Genetic Research Moratorium Already in Trouble

The recommendation for a moratorium on potentially dangerous genetic engineering research is encountering some difficulty only a few months after it was initially proposed and widely acclaimed.

Announced July 18 by a committee of the National Research Council's Assembly of Life Sciences, the recommendation called for a cessation of molecular-level research aimed at creating new, biologically active material "until the potential hazards of such recombinant DNA molecules have been better evaluated or until adequate methods are developed for preventing their spread . . ."

On Sept. 6, the prestigious British journal *Nature* responded with an editorial stating that it would not refrain from publishing reports of experiments in the area of the proposed ban. The reason, the editorial argued, is that the identification of potentially hazardous research cannot "safely be left to a referee with his own personal predilections, or even an editor with his . . ."(SGR Vol. IV, No. 17).

The *Nature* editorial has now been followed by an announcement that Britain's Imperial Chemical Industries and the University of Edinburgh's molecular biology department plan to collaborate on genetic research but will employ techniques that they contend will minimize any hazards.

Specifically, they will use bacteriophage lambda, a virus that invades bacteria. The phage, they say, does not have the drug resistance of materials traditionally used in similar experiments, nor is it as transmittable to different bacteria species.

The British announcement was greeted with a mixture of caution and concern by the chairman of the group that called for the moratorium, Paul Berg, of Stanford University.

Berg told SGR that on the basis of limited information, it was his understanding that the Edinburgh technique "has a potential to be made safer," and that "I don't want to be dogmatic about the problem." But he added that "some people say that there could still be problems." Noting that an international meeting will be held in February in California to discuss the moratorium, Berg said, "I hope they'll wait until we hold the meeting."

Nothing Can Go Wrong, Nothing Can Go Wrong, Nothing Can . . .

Buried deep in the transcript of hearings on nuclear proliferation, conducted recently by the Joint Committee on Atomic Energy (JCAE), is the following tale:

Gene La Rocque, a former US Admiral who is now director of the non-governmental Center for Defense Information, told the JCAE of an experience he had when he was captain of the guided missile cruiser *Providence* in the Pacific.

"One day we were out at target practice," La Rocque said, "and we were going to shoot one of our missiles at one of our own practice planes. I was up on the bridge, and everything, as you know, below is computerized. Nobody sees anything, except on this class of ship the captain is still out and exposed and can see what is going on. Lo and behold, we were ready to fire and the machinery clanks and the computers all buzz and whir and up popped a red-tipped missile–now, a red-tipped missile is a nuclear missile–with some considerable concern on my part to halt this mechanism which was now completely automated and almost out of anybody's control because the radars had locked onto the incoming plane and the computers had all been meshed, and in order to do this at high speed, of course, it has to be totally automated."

"We were able, of course, to put the genie back in the bottle and put the missile down below again," La Rocque said, but added that "knowing many horror stories from fellow naval officers of similar experiences, it really worried me."

La Rocque's testimony has already drawn considerable attention because of his revelation that American ships loaded with nuclear weapons have been sailing into Japanese ports, and he also said that aircraft carriers, frigates, destroyers, submarines and a wide variety of other ships are capable of carrying nuclear weapons. "My experience," he said, "has been that any ship that is *capable* of carrying nuclear weapons, *carries* nuclear weapons."

His verdict: "There is a real danger that we may get an inadvertant use of one of those nuclear weapons."

EPA Fights Back With Tally of Pollution Damage

While many industrialists are charging that environmental regulations are contributing to inflation by shifting manpower and capital into non-productive jobs, EPA has come up with a new set of figures which indicate that air pollution caused $12.3 billion worth of damage to property, health and the environment in 1970.

Prepared by economists working at EPA's National Environmental Research Center in North Carolina, the study is admittedly tentative and it leaves out such costs as damage to domestic animals and wildlife, but it is perhaps the most authoritative study so far of the costs of air pollution, and as such it is sure to be cited often in the continuing debate over the economic effects of pollution control.

The study reckons that damage to human health cost over $4.6 billion in 1970, that air pollution damaged materials to the tune of about $1.7 billion, and that damage to vegetation cost about $0.2 billion. In addition, damage to urban property cost about $5.8 billion, and allowing for some overlap, the study puts the total at $12.3 billion.

Before these estimates are taken too seriously, however, it is instructive to take a look at the other side of the coin– the costs of pollution control.

Each year the EPA Administrator is bound by law to produce an estimate of the costs of meeting the mandates of the Clean Air Act, and this year's report has some surprising things to say. For a start, EPA estimates that cleaning up air pollution will cost $47.3 billion between 1971 and 1979. A look at last year's estimate reveals, however, that EPA then put the costs at only $23.4 billion.

Although EPA tries to explain the differences in terms of a more accurate approach and better data used in this year's effort, the overriding message is that cost estimates of pollution and pollution control need to be taken with some skepticism.

Federal Register by Phone

The General Services Administration which, apart from sanctioning expenditures for improvements to Presidential houses also publishes the *Federal Register*, has initiated a scheme for giving advance public notice of items appearing in the *Register*. By dialing (202) 523-5022, you can now get a summary of selected documents which will be published in the following day's edition.

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Weinberger Stands Firm on HEW Research Policies

Although there has recently been a period of relative calm in the longstanding dispute between Congress and the Administration over the funding and management of biomedical research, few of the basic issues have been resolved and hostilities could break out again at any time.

That much can be discerned from a carefully worded letter written last month by HEW Secretary Caspar Weinberger in reply to a series of questions put to HEW by Senator Gaylord Nelson (D-Wisc.) more than eight months ago, when passions in the biomedical research community were at their height.

Nelson, who cast a lone vote in the Senate in 1971 against a bill to sever the National Cancer Institute from the administrative umbrella of NIH, asked the questions in connection with a bill to broaden the powers of the National Cancer Act. But, since that bill has long since cleared Congress and been signed into law, Weinberger's much-delayed response can be regarded as simply an update on the Administration's thinking on several controversial issues.

Although placatory in tone, the letter indicates that the Administration has scarcely backed off at all from some of its bitterly contested policies.

In response to charges that the budgets for the National Cancer Institute and the National Heart and Lung Institute have been allowed to grow at the expense of all the other NIH institutes, for example, Weinberger reminded Nelson that both Congress and the Administration had agreed to give priority to cancer research, and he suggested that the trend merely reflects the fact "that federal funds are not available to continue to increase all programs at the same time." But he added that "this does not mean that the program of the other institutes has been disrupted or that the quality of their research (has been) reduced."

On the question of peer review of grant applications and contracts for biomedical research - an issue which burst into the spotlight last year when it became known that OMB was not favorably disposed toward NIH's system - Weinberger is ambivalent. "In many cases," he said,"particularly those involving considerable innovative activity, technical merit review by scientific peers is completely appropriate," but he added that it would be "wasting the time of experts" to submit some types of contracts to such review.

Weinberger announced, however, that NIH itself is drawing up guidelines "to define more clearly the different circumstances which should and should not require peer review for various kinds of R&D projects." Since NIH officials have resisted any attempts to weaken the peer review system, it should survive pretty well unscathed.

As for that other bitterly contested area, training grants and fellowships, Weinberger reiterated that the Administration is convinced that there are "more than enough" trained researchers to carry out the cancer research program, and so it is ill-disposed to pumping more money into training biomedical scientists. He reaffirmed that HEW hopes to spend $60 million in FY 1975 on its new postdoctoral fellowship program, and said that since "career incentives will continue to provide adequate numbers of predoctoral graduate students in the biomedical sciences," the NIH traineeships should be phased out.

Since Congress recently passed a biomedical training bill which authorized expenditures of more than $200 million on NIH fellowship and training grants in FY 1975, it is clear that HEW has no intention of carrying out that Congressional directive at least until the money has been appropriated.

Finally, Weinberger made reference to a January 24 letter to the Washington *Post* in which Assistant Secretary for Health Charles C. Edwards took out after the NIH leadership, suggesting that had it been more "receptive and responsive" when Congress was launching the cancer crusade, it may have prevented "removal of the cancer research effort from the Administrative control of NIH." (SGR Vol IV, No. 2).

Weinberger acknowledged - as NIH scientists were quick to point out - that the NIH leadership was consistently opposed to an independent cancer research effort, but he suggested that "perhaps had the leadership at NIH converted its implicit judgement to more explicit explanations of the scientific basis for the judgement it could have been more effective." Since the Nixon White House, which was backing independent status for the Cancer Institute, didn't take too kindly to dissenters in the ranks, the NIH leadership's judgements probably wouldn't have made much difference anyway.–CN

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EPA to Hold Hearings on Plutonium Regulations

In a move which may further strain relationships between the Environmental Protection Agency and the Atomic Energy Commission, EPA has announced that it plans to hold public hearings in December on the adequacy of regulations governing release of plutonium into the environment.

Set for December 10, the hearings will constitute a broad review of a series of questions which have recently been raised about the harmful effects of plutonium, and they are sure to provide a forum for some sharp attacks on AEC's regulations and, indirectly at least, on the entire nuclear power program.

EPA's stake in the matter is that although it lacks the power to set limits on radioactive effluents from individual plants, it has the authority to establish "standards to protect the general environment from radioactive material."

That authority has already provided EPA with a platform from which to question the adequacy of AEC's regulations governing release of radioactive wastes from nuclear power facilities, and the agency's public interest in plutonium has long been anticipated.

Produced during the operation of nuclear reactors, plutonium is an extremely toxic and long-lived radioactive element. It is separated from spent fuel rods, and at present the stuff is either stored or used in the fabrication of weapons.

But the AEC is hoping to use plutonium directly as a fuel for nuclear power plants in the late 1970s, and by the 1990s, breeder reactors could be producing it in prodigous quantities. Plutonium therefore holds a very important position in the future development of nuclear power, and questions about its toxic effects are likely to grow in importance.

EPA's public hearings will be concerned with a broad range of topics, according to a notice published in the October 24 *Federal Register*, only one of which will be a discussion of the health effects of exposure to plutonium. It also proposes to examine "the factors involved in balancing of costs and benefits," methods for monitoring plutonium in the environment, future uses of the element, and the adequacy of control technology.

Much of the discussion is sure to center on a biting critique of AEC's radiation standards published earlier this year by the Natural Resources Defense Council (NRDC), a public interest law group which has been in the forefront of opposition to the breeder reactor program.

Written by Arthur Tamplin, a biologist employed by the AEC's Lawrence Livermore Laboratory, and Thomas B. Cochran, the critique charged that AEC's standards relating to plutonium are based on incorrect biological data and should be reduced by a factor of at least 115,000.

In short, Tamplin and Cochran argued that particles of plutonium inhaled into the lungs will remain lodged in tissue for months or even years so that the tissue surrounding the particle will receive a massive radiation dose. Present AEC standards are based on the assumption that the radioactive dose from inhaled plutonium can be averaged throughout the lungs.

Last month, however, the AEC published a lengthy rebuttal of the NRDC charges. Written by four AEC employees, it concludes that "there is some biological justification" for assuming that radiocative doses from inhaled plutonium will be averaged through the lungs, since the particles will move around unless they are trapped in scar tissue.

That dispute has all the makings of the arguments in the 1960s over low-level radioactive releases from nuclear power plants, and the EPA's hearings will provide the first public forum for ventilating some of the arguments.

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